

AMENDMENTS TO THE CLAIMS

Claims 1-23 (Canceled)

Claim 24 (New): A method for casting a cylinder block made of a metal alloy for an internal combustion engine, comprising:

forming a core assembly having a plurality of barrels, each barrel having a liner therearound and intended to form respective cylinders in the part, crankshaft bearing zones and at least one cooling unit in a region opposite the barrels,

positioning the core assembly in a mold cavity defined by a metallic mold shell, the cooling unit is located at a bottom portion of said core assembly,

further positioning in an upper region of the mold cavity at least one risering core, and filling the mold cavity by gravity through said at least one risering core.

Claim 25 (New): The method according to claim 24, wherein said filling is performed by tilting the mold through a predetermined angle, said mold including a relay ladle.

Claim 26 (New): The method according to claim 24, wherein positioning the core assembly in the mold cavity comprises abutting said at least one cooling unit against a die shoe of the mold.

Claim 27 (New): The method according to claim 24, wherein the mold shell is free of any cooling circuit.

Claim 28 (New): The method according to claim 24, wherein said at least one risering core is a sand core.

Claim 29 (New): A method for casting a cylinder block made of metal alloy for an internal combustion engine, comprising:

forming a core assembly having a plurality of barrels, each barrel having a liner therearound and intended to form respective cylinders in the part and crankshaft bearing zones,

said core assembly being formed by rigidly connecting together a set of core segments each including at least one barrel surrounded by a liner and a crankshaft bearing zone, said core assembly further including at least one cooling unit,

positioning the core assembly in a mold cavity defined by a mold shell, and
filling the mold cavity.

Claim 30 (New): The method according to claim 29, wherein the core is positioned by positioning the individual segments in reference positions with respect to the mold, then by rigidly connecting the segments to one another in these positions.

Claim 31 (New): The method of claim 30, wherein said reference positions are defined by bearing surfaces in the vicinity of the crankshaft bearing zones and liner alignment support members.

Claim 32 (New): The method of claim 31, wherein the segments are rigidly connected to one another by bringing them into abutment at mutual bearing surfaces.

Claim 33 (New): The method of claim 32, wherein each segment includes a respective cooling unit belonging to a respective core segment, said mutual bearing surfaces are provided at the cooling units.

Claim 34 (New): A method for casting a cylinder block made of a metal alloy for an internal combustion engine, comprising:

forming each of a plurality of sand core segments by placing at least one liner in a predetermined position in a core box and then building the core, each segment including at least one barrel surrounded by the liner and a crankshaft bearing zone,

forming a core assembly by rigidly connecting together a set of said core segments, said core assembly further including at least one cooling unit,

positioning the core assembly in a mold cavity defined by a mold shell, and
filling the mold cavity.

Claim 35 (New): The method according to claim 34, wherein the forming the plurality of core segments includes placing a cooling unit in a predetermined position in said core box.

Claim 36 (New): A method for forming a sand core segment for use as a part of a core assembly in the casting of a cylinder block made of a metal alloy for an internal combustion engine, comprising:

placing at least one cylinder liner and one cooling unit in predetermined positions in a core box, and

building the sand core in said core box.